

AMENDMENTS TO THE SPECIFICATION

Please replace Paragraphs [0037] and [0046] with the following paragraphs rewritten in amendment format:

[0037] There are several binder systems envisioned for use in the scroll formation process: wax-polymer, Acetyl based, water soluble, agar water based and water soluble/cross-linked. "Acetyl" based binder systems have as main components polyoxymethylene or polyacetyl with small amounts of polyolefin. The acetyl binder systems are crystalline in nature. Because of the crystallinity, the molding viscosity is quite high and this requires ~~a close controls~~ close controls on the molding temperature. This binder is debound by a catalytic chemical de-polymerization of the polyacetyl component by nitric acid at low temperatures. This binder and debinding process is faster particularly for thicker parts. Molding temperatures are about 180°C and mold temperatures are about 100-140°C, which is relatively high.

[0046] The material composition of the final part shall be about 0.6-0.9% carbon (3.0-3.3% when free graphite is present), 0-10% copper, 0-5% nickel, 0-5% molybdenum, 0-2% chromium and remainder iron. Other minor constituents may be added to modify or improve some aspect of the microstructure, such as hardenability or pearlite fineness. The final material microstructure shall be similar to cast iron. Although, a graphite containing structure may be needed depending upon the tribological requirements of the compressor application, the preferred microstructure for the powder metal shall contain no free graphite. The presence of free graphite

decreases compressibility of the powder and adversely affects dimensional accuracy and tolerances. It is conceivable that one scroll (e.g., the ~~fixed~~ fixed) contains graphite and the orbital does not[[[]]]. The sintering cycle preferably would be performed such that the final part contains a matrix structure that is 90% pearlite minimum by volume (discounting voids). If free graphite is present, it shall be either in a spherical, irregularly shaped, or flake form. The volume percent free graphite is preferably between 5% and 20%. Preferably about 10-12% graphite. Graphite particle size (diameter) shall be about 40-150 microns in effective diameter.